

## Abstract

The invention relates to a device (1) for measuring an angular movement in a vehicle steering system. A shaft (3), whose angular movement is to be measured, is rotationally mounted in a frame (2). Positioned on the shaft (3) is an axially displaceable element (4), which is connected to the shaft (3) via a geared connection (5) that converts the angular movement of the shaft (3) into a longitudinal movement. The geared connection (5) may be a screw thread or a screw-like, sliding-block guide or a recirculating ball screw. The axially displaceable element (4) is axially guided with the aid of a longitudinal guide (6) prestressed in the radial direction and, in particular, by a frame-side component (8) of the longitudinal guide (6). A detection device (7) made up of a transducer (14) on the axially displaceable element (4) and a sensor (15) on the frame (2) detects the longitudinal movement of the axially displaceable element (4).

In order to render the geared connection (5), together with the longitudinal guide (6), backlash-free, it is provided that the frame-side component (8) rest against the axially displaceable element (4) on first oblique surfaces (9, 9') that run at an angle to each other and in the axial direction of the axially displaceable element (4), and that the axially displaceable element (4) and the shaft (3) mesh in a backlash-free manner via second oblique surfaces (10, 10') of the geared connection (5). The first oblique surfaces (9, 9') and the second oblique surfaces (10, 10') have the same inclination directions with respect to each other.

(Fig. 1, 2)